



TM18 Series Sensors Product Manual

Original Instructions

p/n: 155853 Rev G

31-Jul-26

© Banner Engineering Corp. All rights reserved. www.bannerengineering.com

Contents

Chapter 1 Features 3
Models 3
Wiring..... 5

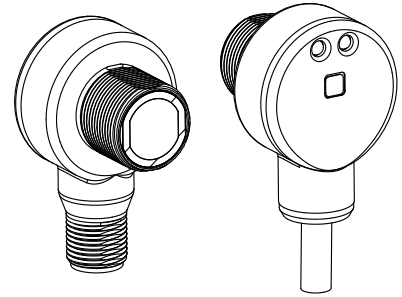
Chapter 2 Specifications 6
Performance Curves..... 7
Dimensions..... 9

Chapter 3 Accessories..... 10
Cordsets 10
Apertures 10

Chapter 4 Product Support and Maintenance 11
TM18 Discontinued Models 11
Repairs and Translations (No Field-Replaceable Parts) 13
Contact Us..... 16
Banner Engineering Corp Limited Warranty 16

Chapter 1 Features

- Heavy duty metal housing with 18 mm threaded barrel mount and integral metal QD prevents sensor damage during machine assembly, transport, maintenance, and operation
- Right angle T-mounting fits in tight places, prevents sensor damage, and avoids personnel catch points
- Models with dedicated 3-wire output NPN or PNP for OEM machine builders — designed to work with I/O block splitters for reduced wiring costs
- Models with 4-wire complementary NPN or PNP outputs available
- Featuring EZ-BEAM technology provides reliable sensing without adjustments
- Visible red LED models available in opposed, polarized retroreflective, diffuse, and fixed-field (background suppression) modes
- Infrared models available in fixed-field (background suppression) mode
- Completely epoxy encapsulated electronics to provide superior durability, especially in harsh sensing environments
- Sensors rated IP69K for resistance to intermittent high pressure wash-down
- Innovative dual indicator systems takes the guess work out of sensor performance monitoring
- Enhanced immunity to fluorescent lights on fixed field and diffuse sensors
- Cross talk avoidance allows two sensors to be used in close proximity on polarized retro, diffuse, and fixed field sensors



WARNING:



- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

Models

Opposed mode sensors

Model Number	Range	Emitter/Receiver	Output	Connection
TM186E	20 m	Emitter	None	2 m (6.5 ft) cable
TM186EQ5				150 mm cable with a 4-pin M12 male quick disconnect (QD)
TM186EQ8				4-pin M12 male QD
TM18AP6R		Receiver	PNP, LO 3-wire	2 m (6.5 ft) cable
TM18AP6RQ8			PNP, LO 3-wire	4-pin M12 male QD
TM18RP6RQ5			PNP, DO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18RP6RQ8			PNP, DO 3-wire	4-pin M12 male QD
TM18VP6R			PNP, LO/DO 4-wire	2 m (6.5 ft) cable
TM18VP6RQ5			PNP, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18VP6RQ8			PNP, LO/DO 4-wire	4-pin M12 male QD
TM18RN6RQ8			NPN, DO 3-wire	4-pin M12 male QD
TM18VN6RQ8			NPN, LO/DO 4-wire	4-pin M12 male QD

Polarized retroreflective mode sensors

Model Number	Range	Output	Connection
TM18AP6LPQ8	5.5 m ⁽¹⁾	PNP, LO 3-wire	4-pin M12 male QD
TM18RP6LPQ5		PNP, DO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18RP6LPQ8		PNP, DO 3-wire	4-pin M12 male QD
TM18VP6LP		PNP, LO/DO 4-wire	2 m cable
TM18VP6LPQ5		PNP, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18VP6LPQ8		PNP, LO/DO 4-wire	4-pin M12 male QD
TM18VN6LPQ8		NPN, LO/DO 4-wire	4-pin M12 male QD

Fixed-field background suppression mode sensors

Model Number	Range	Output	Connection
TM18AP6FF25Q8	25 mm	PNP, LO 3-wire	4-pin M12 male QD
TM18VP6FF25Q8		PNP, LO/DO 4-wire	4-pin M12 male QD
TM18AN6FF25		NPN, LO 3-wire	2 m cable
TM18AP6FF50Q5	50 mm	PNP, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AP6FF50Q8			4-pin M12 male QD
TM18VP6FF50Q8		PNP, LO/DO 4-wire	4-pin M12 male QD
TM18VN6FF50Q8		NPN, LO/DO 4-wire	4-pin M12 male QD
TM18AP6FF100Q5	100 mm	PNP, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AP6FF100Q8			4-pin M12 male QD
TM18VP6FF100Q5		PNP, LO/DO 4-wire	2 m cable
TM18VP6FF100Q8			4-pin M12 male QD
TM18AN6FF100		NPN, LO 3-wire	2 m cable
TM18AN6FF100Q5			150 mm cable with a 4-pin M12 male QD
TM18VN6FF100Q8			4-pin M12 male QD
TM18AN6FF25IR	25 mm	NPN, LO 3-wire	2 m cable
TM18VP6FF50IRQ8	50 mm	PNP, LO/DO 4-wire	4-pin M12 male QD
TM18AP6FF100IRQ5	100 mm	PNP, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AP6FF100IRQ8			4-pin M12 male QD
TM18VP6FF100IRQ5		PNP, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18VP6FF100IRQ8			4-pin M12 male QD
TM18VN6FF100IRQ8		NPN, LO/DO 4-wire	4-pin M12 male QD

Diffuse (visible red) mode sensors

Model Number	Range	Output	Connection
TM18AP6DV	500 mm	PNP, LO 3-wire	2 m cable
TM18AP6DVQ5			150 mm cable with a 4-pin M12 male QD
TM18AP6DVQ8			4-pin M12 male QD
TM18VP6DVQ5		PNP, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18VP6DVQ8			4-pin M12 male QD
TM18AN6DVQ5		NPN, LO 3-wire	150 mm cable with a 4-pin M12 male QD

Continued on page 5

⁽¹⁾ Range specified with BRT-84 reflector.

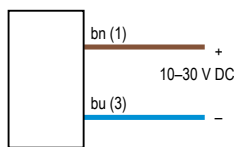
Continued from page 4

Model Number	Range	Output	Connection
TM18RN6DVQ5		NPN, DO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18RN6DVQ8			4-pin M12 male QD
TM18VN6DV		NPN, LO/DO 4-wire	2 m cable
TM18VN6DVQ5			150 mm cable with a 4-pin M12 male QD
TM18VN6DVQ8			4-pin M12 male QD

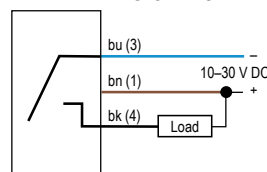
For a list of discontinued models, see ["TM18 Discontinued Models"](#) on page 11.

Wiring

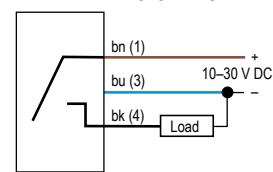
Cabled emitters



NPN LO 3-Wire



PNP LO 3-Wire

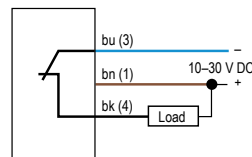


Wiring Key

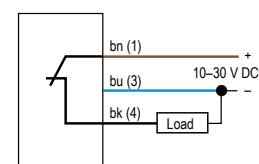
- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black

QD and cabled emitter wiring functionality is identical; black and white wires have no connection when not shown.

NPN DO 3-Wire



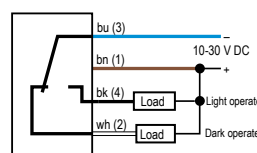
PNP DO 3-Wire



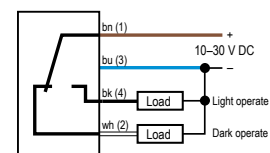
4-pin M12 male pinout



NPN LO/DO 4-Wire



PNP LO/DO 4-Wire



In light operate (LO) mode, the output is ON when the target returns the same or more light to the sensor and OFF when the sensor detects less light than the configured/taught target. In **opposed and retroreflective sensing modes**, light operate is active when the beam is unblocked. In **diffuse, fixed field, and adjustable field sensor modes**, light operate is active when the target is present.

In dark operate (DO) mode, the output is ON when the target returns less light to the sensor than the configured target and OFF when the sensor detects more light than the configured/taught target. In **opposed and retroreflective sensing modes**, dark operate is active when the beam is blocked. In **diffuse, fixed field, and adjustable field sensor modes**, dark operate is active when the target is absent.

Chapter 2 Specifications

Supply Voltage and Current - Class 2

10 V DC to 30 V DC (10% max. ripple within specified limits); supply current (exclusive of load current):

Emitters: 25 mA

Receivers: 20 mA

Polarized Retroreflective: 20 mA

Diffuse and Fixed-Field: 35 mA

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Configuration

NPN or PNP, depending on model

Light Operate: Output conducts when sensor receives its own (or the emitter's) modulated light

Dark Operate: Output conducts when sensor does not receive its own (or the emitter's) modulated light

Effective Beam

13 mm for opposed mode sensors

Adjustments

Diffuse models only: single turn rear panel sensitivity control

LED

Opposed (emitter) mode models: Visible red 625 nm

Polarized retroreflective (LP) mode models: Visible red 624 nm

Fixed-field background suppression (FFxxx) mode models: Visible red 660 nm

Fixed-field background suppression (FFxxxIR) mode models: Infrared, 880 nm

Diffuse (DV) mode models: Visible red 660 nm

Connections

2 m (6.5 ft) integral PVC-jacketed cable or 9 m (30 ft) integral PVC cable

Integral 4-pin M12 male quick-disconnect connector

150 mm (6 in) PVC-jacketed cable with a 4-pin M12 male quick-disconnect connector

Construction

Housing: Zinc die cast with nickel plating

Lens: PMMA or PC (opposed mode only)

Black Cover: PBT polyester housing

Required Overcurrent Protection



WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to www.bannerengineering.com.

Output Protection Circuitry

Protected against output short-circuit, continuous overload, and false pulse on power-up

Output Rating

150 mA maximum each output at 25 °C, derated to 100 mA at 70 °C (derate about 1 mA per °C)

OFF-state leakage current: < 1 microamp at 30 V DC

ON-state saturation voltage: < 1 V at 10 mA DC; < 1.5 V at 150 mA DC

Output Response Time (TM18)

Opposed mode: 1.5 ms ON, 0.75 ms OFF

Retro: 3 ms ON and OFF

Diffuse and Fixed Field: 3 ms ON, 1.5 ms OFF

Note: 100 ms delay on power-up; outputs do not conduct during this time.

Repeatability (TM18)

Opposed mode: 190 µs

Retro: 585 µs

Diffuse and Fixed Field: 185 µs

Operating Conditions

−40 °C to +70 °C (−40 °F to +158 °F)

90% at +50 °C maximum relative humidity (non-condensing)

Vibration and Mechanical Shock

All models meet Mil. Std. 202F requirements. Method 201A (Vibration; frequency 10 to 60 Hz, max., double amplitude 0.06 in acceleration 10G). Method 213B conditions H&I (Shock: 75G with unit operating; 100G for non-operation)

Environmental Rating

IP67; quick disconnect models are IP69K per ISO 20653 when mated with a wash-down rated (IP69K per ISO 20653) cordset

Certifications



Class 2 supply Required



Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	2.0	30	0.5

Indicators

Two LEDs (green and amber)

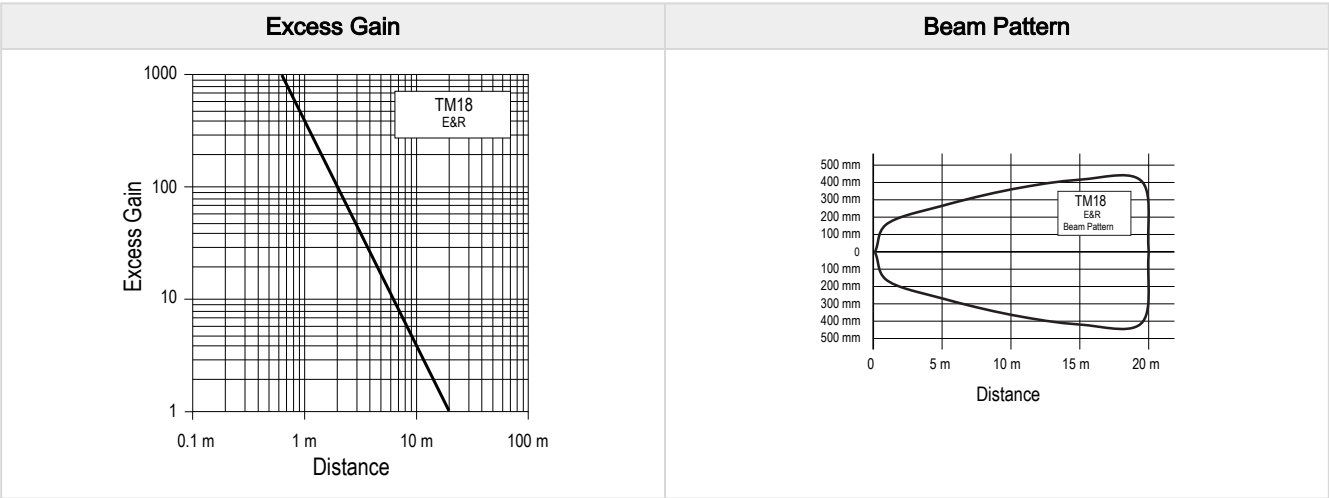
Complementary (4-Wire) Models	
Indicator	Description
Green ON	Power ON
Green Flashing*	Output is overloaded
Amber ON	N.O. Output is conducting
Amber Flashing*	Marginal excess gain (1 to 1.5x)

* Not valid for Diffuse or Fixed Field Models.

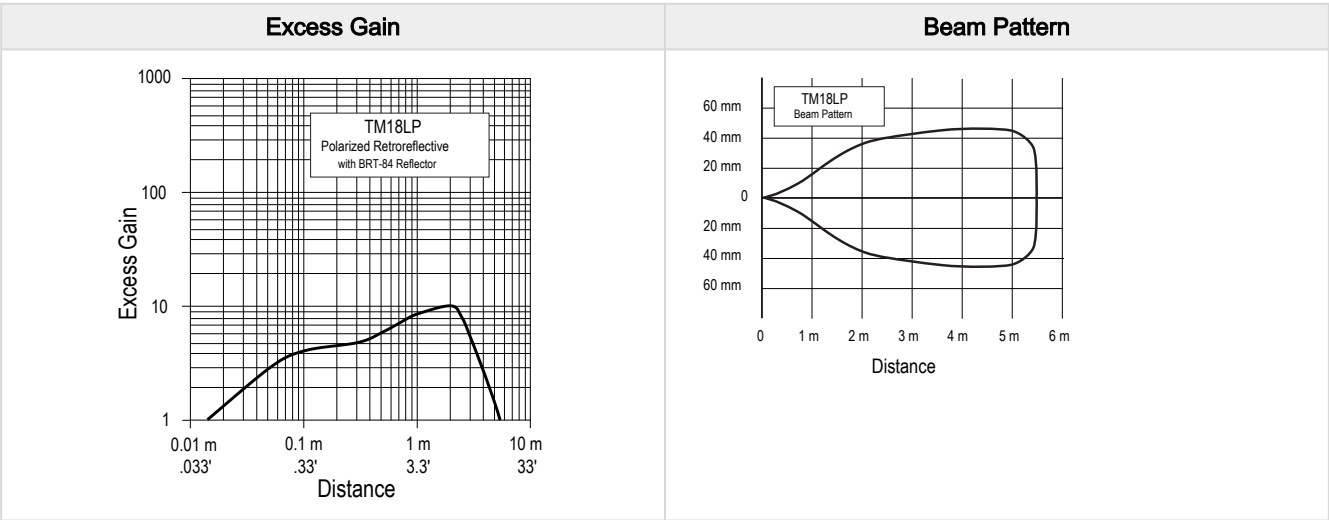
Single Output (3-Wire) Models	
Indicator	Description
Green ON	Power ON
Green Flashing	N.A.
Amber ON	Output is conducting
Amber Flashing	N.A.

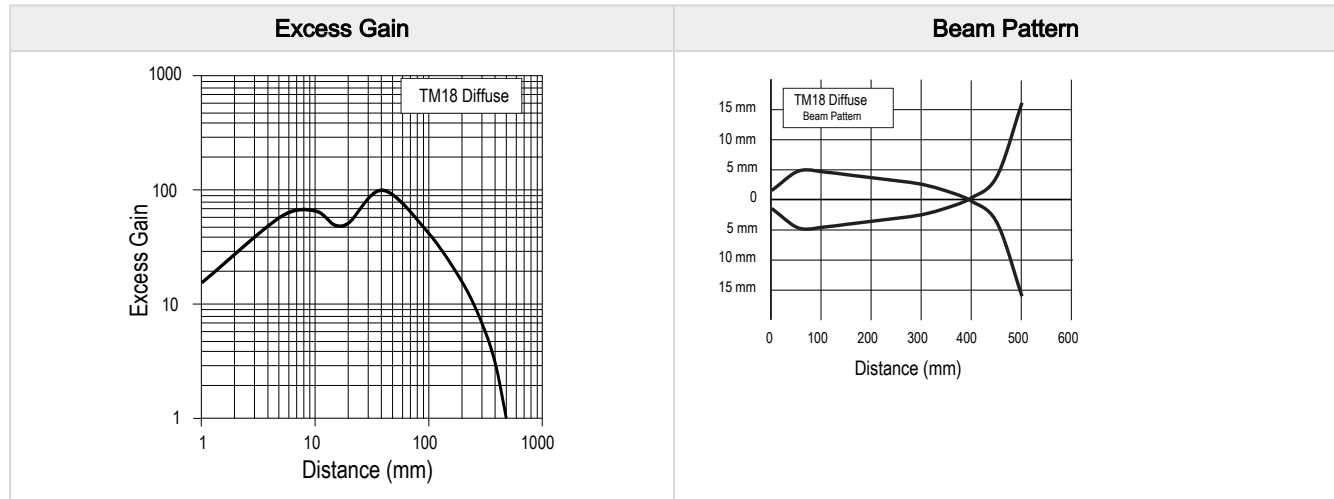
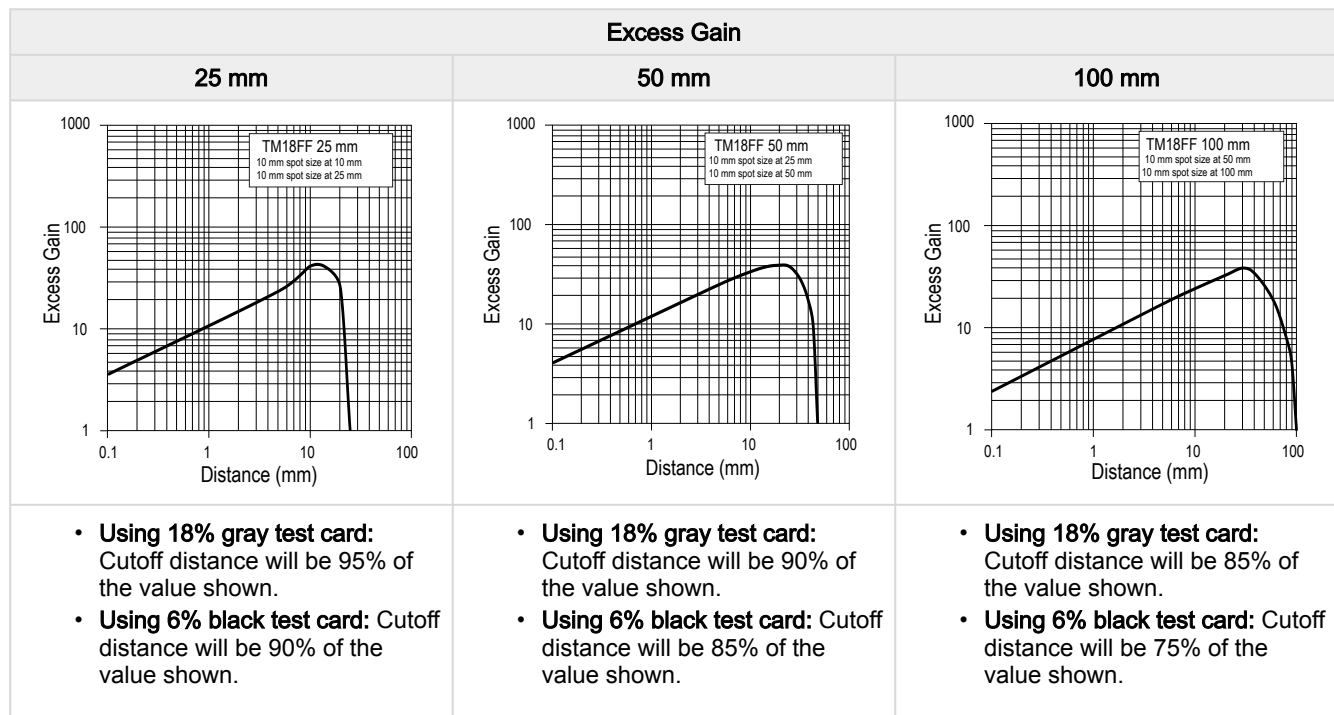
Performance Curves

Opposed mode sensors

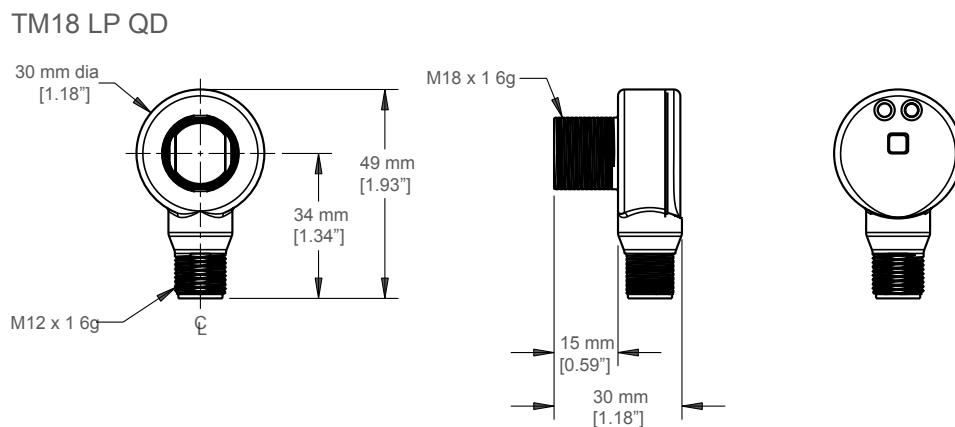
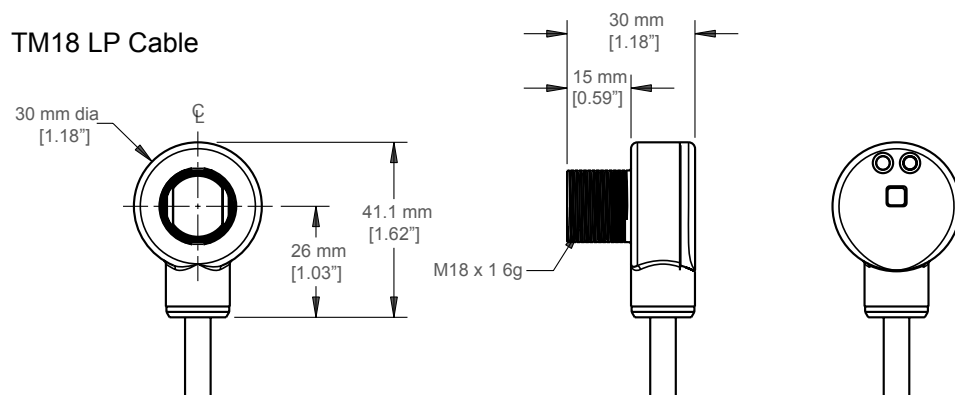


Polarized retroreflective mode sensors



Diffuse mode sensors*Fixed-field mode sensors (visible red and infrared)*

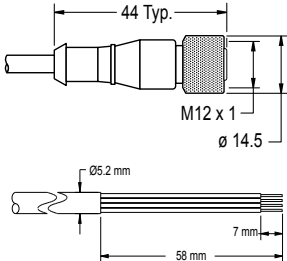
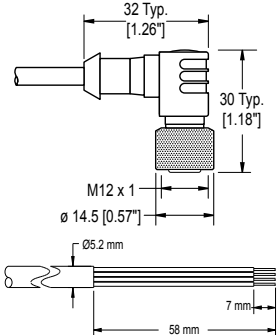
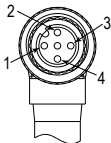
Dimensions



Maximum Torque specification: 5.6 nm or 50 in-lbs. Lockwasher and M18 nut included.

Chapter 3 Accessories

Cordsets

4-Pin Single-Ended M12 Female Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406	2 m (6.56 ft)	Straight		
MQDC-415	5 m (16.4 ft)			
MQDC-430	9 m (29.5 ft)			
MQDC-450	15 m (49.2 ft)			
MQDC-406RA	2 m (6.56 ft)	Right-Angle		
MQDC-415RA	5 m (16.4 ft)			
MQDC-430RA	9 m (29.5 ft)			
MQDC-450RA	15 m (49.2 ft)			
				1 = Brown 2 = White 3 = Blue 4 = Black 5 = Not used 

Apertures

AP18SCN Aperture Kit

Kit includes black acetal round apertures of 0.5 mm (0.02 in), 1.0 mm (0.04 in), and 2.5 mm (0.10 in) diameter.

Used with T18, TM18 models.



AP18SRN Aperture Kit

Kit includes black acetal rectangular apertures of 0.5 mm (0.02 in), 1.0 mm (0.04 in), and 2.5 mm (0.10 in) wide. Each kit also includes a thread-on housing, Teflon® FEP® lens, and o-ring.

Used with T18, TM18



APG18S Aperture Kit

Kit with glass lens to protect plastic sensor lens from chemical environments and weld splatter damage.

Used with S18, M18, T18, TM18, and Q4X



Chapter 4 Product Support and Maintenance

TM18 Discontinued Models

The following models are no longer available for order but are still covered by the information in this document.

Opposed mode sensors

Model Number	Output	Connection
TM186E W/30	None	9 m cable
TM18AP6R W/30	PNP, LO 3-wire	9 m cable
TM18AP6RQ5	PNP, LO 3-wire	150 mm cable with a 4-pin M12 male quick disconnect (QD)
TM18RP6R	PNP, DO 3-wire	2 m cable
TM18AN6R	NPN, LO 3-wire	2 m cable
TM18AN6RQ5	NPN, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6RQ8	NPN, LO 3-wire	4-pin M12 male QD
TM18RN6R	NPN, DO 3-wire	2 m cable
TM18RN6RQ5	NPN, DO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18VN6R	NPN, LO/DO 4-wire	2 m cable
TM18VN6R W/30	NPN, LO/DO 4-wire	9 m cable
TM18VN6RQ8	NPN, LO/DO 4-wire	4-pin M12 male QD

Polarized retroreflective mode sensors

Model Number	Output	Connection
TM18AP6LP	PNP, LO 3-wire	2 m cable
TM18AP6LP W/30	PNP, LO 3-wire	9 m cable
TM18AP6LPQ5	PNP, LO 3-wire	
TM18RP6LP	PNP, DO 3-wire	2 m cable
TM18RP6LP W/30	PNP, DO 3-wire	9 m cable
TM18VP6LP W/30	PNP, LO/DO 4-wire	9 m cable
TM18AN6LP	NPN, LO 3-wire	2 m cable
TM18AN6LPQ5	NPN, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6LPQ8	NPN, LO 3-wire	4-pin M12 male QD
TM18RN6LP	NPN, DO 3-wire	2 m cable
TM18RN6LPQ5	NPN, DO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18RN6LPQ8	NPN, DO 3-wire	4-pin M12 male QD
TM18VN6LP	NPN, LO/DO 4-wire	2 m cable
TM18VN6LP W/30	NPN, LO/DO 4-wire	9 m cable
TM18VN6LPQ5	NPN, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD

Fixed-field background suppression mode sensors

Model Number	Range	Output	Connection
TM18AP6FF25	25 mm	PNP, LO 3-wire	2 m cable

Continued on page 12

Continued from page 11

Model Number	Range	Output	Connection
TM18AP6FF25 W/30		PNP, LO 3-wire	9 m cable
TM18AP6FF25Q5		PNP, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18VP6FF25		PNP, LO/DO 4-wire	2 m cable
TM18VP6FF25Q5		PNP, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6FF25Q5		NPN, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6FF25Q8		NPN, LO 3-wire	4-pin M12 male QD
TM18VN6FF25		NPN, LO/DO 4-wire	2 m cable
TM18VN6FF25Q5		NPN, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18VN6FF25Q8		NPN, LO/DO 4-wire	4-pin M12 male QD
TM18AP6FF50	50 mm	PNP, LO 3-wire	2 m cable
TM18AP6FF50 W/30		PNP, LO 3-wire	9 m cable
TM18VP6FF50		PNP, LO/DO 4-wire	2 m cable
TM18VP6FF50Q5		PNP, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6FF50		NPN, LO 3-wire	2 m cable
TM18AN6FF50Q5		NPN, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6FF50Q8		NPN, LO 3-wire	4-pin M12 male QD
TM18VN6FF50		NPN, LO/DO 4-wire	2 m cable
TM18VN6FF50Q5		NPN, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18AP6FF100	100 mm	PNP, LO 3-wire	2 m cable
TM18VP6FF100		PNP, LO/DO 4-wire	2 m cable
TM18AN6FF100Q8		NPN, LO 3-wire	4-pin M12 male QD
TM18VN6FF100		NPN, LO/DO 4-wire	2 m cable
TM18VN6FF100Q5		NPN, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18AP6FF25IR	25 mm	PNP, LO 3-wire	2 m cable
TM18AP6FF25IRQ5		PNP, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AP6FF25IRQ8		PNP, LO 3-wire	4-pin M12 male QD
TM18VP6FF25IR		PNP, LO/DO 4-wire	2 m cable
TM18VP6FF25IRQ5		PNP, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18VP6FF25IRQ8		PNP, LO/DO 4-wire	4-pin M12 male QD
TM18AN6FF25IRQ5		NPN, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6FF25IRQ8		NPN, LO 3-wire	4-pin M12 male QD
TM18VN6FF25IR		NPN, LO/DO 4-wire	2 m cable
TM18VN6FF25IRQ5		NPN, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18VN6FF25IRQ8		NPN, LO/DO 4-wire	4-pin M12 male QD
TM18AP6FF50IR	50 mm	PNP, LO 3-wire	2 m cable
TM18AP6FF50IR W/30		PNP, LO 3-wire	9 m cable

Continued on page 13

Continued from page 12

Model Number	Range	Output	Connection
TM18AP6FF50IRQ5		PNP, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AP6FF50IRQ8		PNP, LO 3-wire	4-pin M12 male QD
TM18VP6FF50IR		PNP, LO/DO 4-wire	2 m cable
TM18VP6FF50IRQ5		PNP, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6FF50IR		NPN, LO 3-wire	2 m cable
TM18AN6FF50IRQ5		NPN, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6FF50IRQ8		NPN, LO 3-wire	4-pin M12 male QD
TM18VN6FF50IR		NPN, LO/DO 4-wire	2 m cable
TM18VN6FF50IRQ5		NPN, LO/DO 4-wire	150 mm cable with a 4-pin M12 male QD
TM18VN6FF50IRQ8		NPN, LO/DO 4-wire	4-pin M12 male QD
TM18AP6FF100IR	100 mm	PNP, LO 3-wire	2 m cable
TM18VP6FF100IR		PNP, LO/DO 4-wire	2 m cable
TM18AN6FF100IR		NPN, LO 3-wire	2 m cable
TM18AN6FF100IRQ5		NPN, LO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18AN6FF100IRQ8		NPN, LO 3-wire	4-pin M12 male QD
TM18VN6FF100IR		NPN, LO/DO 4-wire	2 m cable
TM18VN6FF100IRQ8		NPN, LO/DO 4-wire	4-pin M12 male QD

Diffuse (visible red) mode sensors

Model Number	Range	Output	Connection
TM18AP6DV W/30	500 mm	PNP, LO 3-wire	9 m cable
TM18RP6DV		PNP, DO 3-wire	2 m cable
TM18RP6DVQ5		PNP, DO 3-wire	150 mm cable with a 4-pin M12 male QD
TM18RP6DVQ8		PNP, DO 3-wire	4-pin M12 male QD
TM18VP6DV		PNP, LO/DO 4-wire	2 m cable
TM18AN6DV		NPN, LO 3-wire	2 m cable
TM18AN6DVQ8		NPN, LO 3-wire	4-pin M12 male QD
TM18RN6DV		NPN, DO 3-wire	2 m cable

Repairs and Translations (No Field-Replaceable Parts)

English

Contact Banner Engineering for troubleshooting of this device. **Do not attempt any repairs to this Banner device; it contains no field-replaceable parts or components.** If the device, device part, or device component is determined to be defective by a Banner Applications Engineer, they will advise you of Banner's RMA (Return Merchandise Authorization) procedure.

IMPORTANT: If instructed to return the device, pack it with care. Damage that occurs in return shipping is not covered by warranty.

Obtain assistance with product repairs by contacting your local Banner Engineering Corp distributor or by calling Banner directly at (763) 544-3164. Access literature translated into your native language on the Banner website at www.bannerengineering.com or contact Banner directly at (763) 544-3164.

Deutsch

Wenden Sie sich zur Fehlerbehebung dieses Geräts an Banner Engineering. **Versuchen Sie nicht, Reparaturen an diesem Banner-Gerät vorzunehmen. Das Gerät enthält keine am Einsatzort auszuwechselnden Teile oder Komponenten.** Wenn ein Banner-Anwendungstechniker zu dem Schluss kommt, dass dieses Gerät, ein Teil oder eine Komponente davon defekt ist, erhalten Sie von dem Techniker Erläuterungen zu Banners RMA-Verfahren (Return Merchandise Authorization) für die Warenrückgabe.

WICHTIG: Wenn Sie der Techniker anweist, das Gerät zurückzusenden, verpacken Sie es bitte sorgfältig. Transportschäden bei der Rücksendung werden von der Garantie nicht abgedeckt.

Unterstützung bei Produktreparaturen erhalten Sie von Ihrem örtlichen Banner Engineering Corp Händler oder direkt von Banner unter Tel. (763) 544-3164. Die in Ihre Muttersprache übersetzte Literatur finden Sie auf der Banner-Website unter www.bannerengineering.com oder kontaktieren Sie Banner direkt unter Tel. (763) 544-3164.

Français

Pour plus d'informations sur le dépannage du produit, contactez Banner Engineering. **Ne tentez pas de réparer ce dispositif Banner. Il ne contient aucun composant ou pièce qui puisse être remplacé sur place.** Si un ingénieur de Banner conclut que le dispositif ou l'une de ses pièces ou composants est défectueux, il vous informera de la procédure à suivre pour le retour des produits (RMA).

Important : Si vous devez retourner le dispositif, emballez-le avec soin. Les dégâts occasionnés pendant le transport de retour ne sont pas couverts par la garantie.

Pour vous aider lors de la réparation de produits, contactez votre distributeur Banner local ou appelez directement Banner au (763) 544-3164. La documentation traduite dans votre langue est disponible sur le site internet de Banner www.bannerengineering.com ou contactez directement Banner au (763) 544-3164.

Italiano

Per le procedure di individuazione e riparazione dei guasti di questo dispositivo, contattare Banner Engineering. **Non tentare di riparare questo dispositivo Banner, in quanto non contiene parti o componenti sostituibili dall'utente.** Se il dispositivo, una parte del dispositivo o un componente del dispositivo viene riscontrato difettoso da un tecnico Banner, il nostro personale vi comunicherà la procedura da seguire per ottenere l'autorizzazione al reso.

Importante: Se si ricevono istruzioni di rispedire il dispositivo al produttore, imballarlo con cura. I danni dovuti al trasporto non sono coperti dalla garanzia.

Per assistenza nelle riparazioni dei prodotti, contattare il distributore locale Banner Engineering Corp o contattare direttamente Banner al numero (763) 544-3164. È possibile accedere alla documentazione tradotta nella propria lingua madre sul sito Web Banner all'indirizzo www.bannerengineering.com o contattare direttamente Banner al numero (763) 544-3164.

Español

Comuníquese con Banner Engineering para solucionar de problemas de este dispositivo. **No intente ninguna reparación a este dispositivo de Banner, contiene piezas o componente que no se pueden cambiar en terreno.** Si algún ingeniero de aplicaciones de Banner determina que el dispositivo, alguna de las piezas o alguno de los componentes del dispositivo está defectuoso, le informará el procedimiento de autorización de devolución de mercancía (RMA, por sus siglas en inglés) de Banner.

Importante: Si se le solicita devolver el dispositivo, empáquelo con cuidado. Puede haber daños durante el envío de devolución que no estén cubiertos por la garantía.

Para reparaciones de productos, por favor contacte a su distribuidor local de Banner Engineering o llame a Banner directamente al 00 1 (763) 544-3164. Vea la literatura traducida en su idioma en el sitio web Banner en www.bannerengineering.com o comuníquese con Banner directamente al 00 1 (763) 544-3164.

中国人

如需对本装置进行故障排查, 请联系邦纳。 **请勿尝试自行维修该邦纳装置; 本装置不包含任何可在现场更换的部件或组件。** 若经邦纳应用工程师确认设备、设备部件或组件存在缺陷, 他们将告知您邦纳退货授权 (RMA) 流程。

重要注意事项: 如被要求退回装置, 请妥善包装后寄回。退货运输过程中发生的损坏不在保修范围内。

请联系当地的 Banner Engineering Corp 经销商或直接致电 Banner +1 (763) 544-3164, 以获得产品维修帮助。请访问邦纳网站 www.bannerengineering.com 或直接拨打 +1 (763) 544-3164 联系邦纳, 获取翻译成您母语的资料。

한국인

이 장치의 문제를 해결하려면 Banner Engineering에 문의하십시오. 이 **Banner 장치에는 현장에서 교체할 수 있는 부품 또는 구성품이 없으므로 수리를 시도하지 마십시오.** Banner 애플리케이션 엔지니어가 장치, 장치 부품 또는 장치 구성품에 결함이 있는 것으로 판정하면, Banner의 RMA(제품 반송 승인)절차에 대해 안내해 드립니다.

중요: 제품을 반송하도록 안내 받으셨다면 잘 포장해주시십시오. 반송 도중에 발생한 손상은 보증 서비스가 적용되지 않습니다.

제품 수리에 대한 지원은 지역 Banner Engineering Corp 대리점에 문의하거나 Banner에 직접 (763) 544-3164로 문의하실 수 있습니다. 사용자의 모국어로 번역된 자료는 Banner 웹사이트 www.bannerengineering.com에서 액세스하거나 Banner에 직접 (763) 544-3164로 문의하실 수 있습니다.

日本語

この装置のトラブルシューティングについては、バナーエンジニアリングにお問い合わせください。このバナー装置には、現場では交換できない部品またはコンポーネントが含まれているため、修理を試みてはいけません。バナーのアプリケーションエンジニアが装置、装置の部品、または装置のコンポーネントに欠陥があると判断した場合、バナーのRMA（返品承認）手続きについてお知らせします。

重要： 返品を指示された場合は、装置を丁寧に梱包してください。返品時に発生した破損は保証の対象外となります。

製品の修理については、最寄りのBanner Engineering Corp代理店にお問い合わせいただくか、米国+1 (763) 544-3164まで直接お電話でお問い合わせください。バナーのウェブサイト (www.bannerengineering.com) でお客様の言語に翻訳された資料にアクセスするか、米国+1 (763) 544-3164まで直接お電話でお問い合わせください。

čeština

Pro řešení problémů se zařízením kontaktujte společnost Banner Engineering. **Neprovádějte žádné opravy zařízení Banner. Neobsahují žádné komponenty nebo části, které by byly vyměnitelné.** Pokud je zařízení, jeho část nebo díl označen technikem společnosti Banner jako poškozený, bude Vám doporučeno vyplnit reklamční RMA protokol.

Důležité: Pokud byl vydán požadavek na vrácení zařízení, pečlivě ho zabalte. Poškození vzniklé při dopravě není považováno za záruční opravu.

Pokud produkt potřebuje opravu, vyžádejte si pomoc od místního distributora společnosti Banner Engineering Corp nebo přímo na telefonním čísle (763) 544-3164. Dokumentaci přeloženou do vašeho jazyka si vyhledejte na webových stránkách společnosti Banner na adrese www.bannerengineering.com nebo se obraťte přímo na společnost Banner na telefonním čísle (763) 544-3164.

Polski

W celu rozwiązania problemów z urządzeniem należy skontaktować się z działem technicznym firmy Banner Engineering. **Pod żadnym pozorem nie próbuj naprawiać tego urządzenia firmy Banner; nie zawiera ono części ani elementów, które można wymienić samodzielnie.** Jeśli urządzenie, jego część lub element zostaną uznane za wadliwe przez inżyniera technicznego Banner, poinformuje on użytkownika o firmowej procedurze zwrotu towaru (RMA) firmy Banner.

Ważne: Jeśli urządzenie ma zostać zwrócone, należy je starannie zapakować. Uszkodzenia powstałe podczas odsyłki nie są objęte gwarancją.

Aby uzyskać pomoc w zakresie naprawy produktu, należy skontaktować się z lokalnym dystrybutorem Banner Engineering Corp lub zadzwonić bezpośrednio do firmy Banner pod numer (763) 544-3164. Dostęp do literatury przetłumaczonej na swój język ojczysty można uzyskać na stronie internetowej firmy Banner pod adresem www.bannerengineering.com lub kontaktując się bezpośrednio z firmą Banner pod numerem (763) 544-3164.

Português

Entre em contato com a Engenharia da Banner para a solução de problemas deste dispositivo. **Não tente fazer nenhum reparo neste dispositivo Banner; ele não contém peças ou componentes substituíveis em campo.** Se um técnico de aplicações da Banner determinar que o dispositivo, peça ou componente do dispositivo está com defeito, ele o informará sobre o procedimento de RMA (Autorização de Devolução de Mercadoria) da Banner.

Importante: Se for instruído a devolver o dispositivo, embale-o com cuidado. Os danos ocorridos no transporte de devolução não são cobertos pela garantia.

Obtenha assistência para reparos do produto entrando em contato com o distribuidor local da Banner Engineering Corp ou ligando diretamente para a Banner no telefone (763) 544-3164. Acesse a literatura traduzida para seu idioma nativo no site da Banner em www.bannerengineering.com ou entre em contato diretamente com a Banner pelo telefone (763) 544-3164.

Türkçe

Bu cihazda sorun giderme işlemleri için Banner Engineering ile iletişime geçin. **Bu Banner cihazını onarmaya çalışmayın; cihaz sahada değiştirilebilir parça veya bileşen içermez.** Bir Banner Uygulama Mühendisi tarafından cihazın, cihazın bir parçasının veya bir cihaz bileşeninin kusurlu olduğu tespit edilirse, Banner RMA (İade Mal Yetkilendirme) prosedürü hakkında bilgilendirilirsiniz.

ÖNEMLİ: İade etmeniz istenirse, cihazı dikkatli bir şekilde paketleyin. İade nakliyesinde meydana gelecek hasarlar garanti kapsamında değildir.

Yerel Banner Engineering Corp distribütörünüzle iletişime geçerek veya doğrudan (763) 544-3164 numaralı telefondan Banner'ı arayarak ürün onarımlarıyla ilgili yardım alın. Ana dilinize çevrilmiş dokümanlara www.bannerengineering.com adresindeki Banner web sitesinden erişebilir veya (763) 544-3164 numaralı telefondan doğrudan Banner ile iletişime geçebilirsiniz.

Contact Us

Banner Engineering Corp. | 9714 Tenth Avenue North | Plymouth, MN 55441, USA | Phone: + 1 888 373 6767

For worldwide locations and local representatives, visit www.bannerengineering.com.

Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.

